Claims:

1.   A panoramic visualization system, comprising:

a plurality of cameras, each of which produces image data from its field of view, wherein each camera's field of view overlaps with a neighboring field of view;

a pointing device for supplying view port direction information; and

a processing system for receiving said view port direction information and said image data from said plurality of cameras, said processing system for producing view port data from said received image data in response to said received view port direction information, wherein said processing system blends said image data from overlapping fields of view to produce panoramic view data that represents a panoramic view, wherein said view port data represents a portion of said panoramic view that is selected by said view port direction information; and wherein said processing system corrects the view port data for relative positions of said plurality of cameras.

2.   The panoramic visualization system according to claim 1, wherein each camera of said plurality of cameras includes a lens, and wherein said processing system corrects said view port data for lens distortion of said plurality of cameras.

3.   The panoramic visualization system according to claim 1, further including a display device for displaying said view port data.

4.   The panoramic visualization system according to claim 3, wherein said display device is selected from a group comprising of a helmet mounted display, a CRT, and a flat panel display.

5.   The panoramic visualization system according to claim 1, further including a control assembly that produces control information, wherein said processing system produces said view port data based on said control information.

6.   The panoramic visualization system according to claim 5, wherein said pointing device is selected from a group comprising of a mouse, a head tracker, a touch screen, and a joystick.

7. The panoramic visualization system according to claim 1, wherein said processing system automatically tracks a moving object.

8. The panoramic visualization system according to claim 1, wherein said processing system corrects said view port data for roll, pitch, or yaw.

9. The panoramic visualization system according to claim 1, wherein said plurality of cameras are mounted on a moving vehicle.

10. The panoramic visualization system according to claim 1, wherein said processing system employs a vision processing board.

11. A panoramic visualization system, comprising:

a plurality of cameras, each of which produces image data from its field of view, wherein each field of view overlaps with a neighboring field of view;

a first pointing device for supplying first view port direction information;

a second pointing device for supplying second view port direction information; and

a processing system for receiving said first view port direction information, said second view port direction information, and said image data from said plurality of cameras, said processing system for producing first view port data from said received image data in response to said received first view port direction information, said processing system further for producing second view port data from said received image data in response to said received second view port direction information, wherein said processing system blends image data from overlapping fields of view to produce panoramic view data that represents a panoramic view, wherein said first view port data represents a portion of said panoramic view that is selected by said first view port direction information, wherein said second view port data represents a portion of said panoramic view that is selected by said second view port direction information, and wherein at least one of the view ports automatically tracks a moving object.

12. The panoramic visualization system according to claim 11, further including a first display device for displaying said first view port data and a second display device for displaying said second view port data.

13. The panoramic visualization system according to claim 12, wherein said first display device is selected from a group comprising of a helmet mounted display, a CRT, and a flat panel display.

14. The panoramic visualization system according to claim 11, further including a control assembly that produces control information, wherein said processing system produces said first view port data based on said control information.

15. A method of visualizing a panoramic view, comprising:

locating a plurality of cameras having lenses such that the cameras produce images having overlapping fields of view;

obtaining view port direction information; and

processing the images to produce panoramic view data that represents a portion of the panoramic view selected by the view port direction information and such that distortion produced by the camera lenses is corrected .

16. The method of claim 15, further including displaying the view port data.

17. The method of claim 15, wherein multiple view port direction information is obtained, and wherein multiple panoramic views, each selected by associated view port direction information, are produced.

18. The method of claim 17, further including displaying multiple panoramic views.

19. The panoramic visualization system according to claim 15, wherein the processing automatically tracks a moving object.

20. A vehicle vision system comprising:

a vehicle body;

a plurality of cameras mounted to said body, wherein each camera produces image data from its field of view, and wherein each camera's field of view overlaps with a neighboring field of view;

a pointing device for supplying view port direction information; and

a processing system for receiving said view port direction information and said image data from said plurality of cameras, said processing system for producing view port data from said received image data in response to said

received view port direction information, wherein said processing system blends said image data from overlapping fields of view to produce panoramic view data that represents a panoramic view, wherein said view port data represents a portion of said panoramic view that is selected by said view port direction information, and wherein the processing system automatically tracks a moving object.